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# FOOD NEWS

**FOR CONSUMERS**

Volume 9 Number 1 Spring 1992

United States Department of Agriculture  
Food Safety and Inspection Service

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**THE STORM SEASON**  
A FOOD SAFETY SURVIVAL GUIDE



# FOOD NEWS

Spring 1992  
Vol. 9, No. 1

Food News for Consumers is published by USDA's Food Safety and Inspection Service, the agency charged with ensuring the safety, wholesomeness and proper labeling of the nation's meat and poultry supply. The magazine reports how FSIS acts to protect public safety, covering research findings and regulatory efforts important in understanding how the agency works and how consumers can protect themselves against foodborne illness.

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## Looking Ahead to the Storm Season

*A Message from FSIS's Acting Director of Microbiology, Jerry Carosella.*

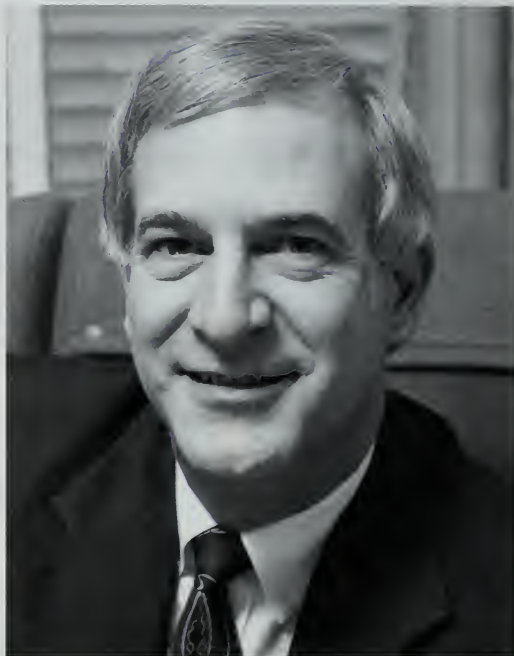
**I**n many parts of the country by the time you receive this issue of *Food News for Consumers*, new buds will be appearing on the trees and the first flowers will be pushing their way out of the earth. Yet along with springtime can come turbulent weather patterns with the change from the harshness of winter.

Providing food safety information to help people prepare for tornadoes, floods, hurricanes and earthquakes is the topic of this month's issue. While most people think natural disasters will never strike them, more than 800,000 people were victims of such catastrophes last year. In the wake of these disasters, people are confronted with numerous problems, including the safety of their food supply.

Loss of electrical power and refrigeration as well as chemical and bacterial contamination can jeopardize food and put people at risk for foodborne illness or food poisoning as you may be used to calling it. This issue is designed to help prevent such problems by giving people tips on how to safely store food before a disaster and how to handle food safely after a disaster hits.

To help you keep your spring holidays safe, we've included tips for handling traditional holiday foods, advice on some little-known food hotlines and guidance on the storage of fermented food.

FSIS spends millions of dollars in food safety research to foster the development of programs and procedures to curtail the presence of pathogens in meat and poultry. However, the possibility of contamination always exists. So the best way to avoid unnecessary illness is to make a habit of observing the safe food handling guidelines presented in this issue every day.



Mr. Jerry Carosella, whose microbiology degree is from Purdue University, has spent twenty years of his career with FSIS. He is now Acting Director of the Microbiology Division.

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# USDA's Meat and Poultry Hotline Is Handling "Lighter" and "Leaner" Questions

Barbara M. O'Brien, R.D.

Open a magazine or newspaper these days and you will probably see information on some aspect of human nutrition. More and more people are wanting to know what to eat for good health. Nutrition is truly a hot topic for the 1990s.

The consumer of today has many questions. Is meat really leaner than it was 10 years ago? What are lean cuts of meat? Is a product labeled "80% Lean" really low in fat? How can I reduce the amount of fat in my diet? Does dark meat of poultry have more fat than the white meat?

"Since it began operation in 1985, the Meat and Poultry Hotline has provided food safety and labeling information to over 410,000 people," said Susan Conley, Hotline Manager. "Over the years, consumers have become more aware of nutrition and the role that diet plays in health. The Hotline has been receiving an increasing number of calls about nutrition. Consumers are confused and nutrition misinformation is everywhere."

To address these types of questions, the dietitians and home economists on the Meat and Poultry Hotline are now answering basic nutrition questions about meat and poultry in addition to providing food safety and labeling information on meat and poultry products.

By expanding its scope, the Meat and Poultry Hotline has become another of USDA's avenues for getting the nutrition message out to the public. This

expansion of the Hotline has improved USDA's ability to positively influence the health of the American public by providing information that will help consumers make informed choices about the food they eat. Informed individuals will be able to choose meat and poultry products wisely and prepare them safely to enjoy the full nutritional benefit of these foods.

The Meat and Poultry Hotline, sponsored by the Food Safety and Inspection Service (FSIS), is part of the USDA team whose goal is to get the nutrition message to the public. Other USDA agencies closely involved with nutrition, food consumption and education are the Human Nutrition Information Service (HNIS), the Food and Nutrition Service (FNS) and the Extension Service. These USDA agencies coordinate their efforts with those of the Department of Health and Human Services to get accurate, uniform nutrition information out to the public.

The Hotline staff answer basic nutrition questions about meat and poultry products such as are some meats higher in fat and cholesterol than other meats? Is ground turkey lower in fat than lean ground beef? Educating consumers to read and understand the nutrition information on the labels is one of the goals of the Hotline.

**What the Meat and Poultry Hotline Can't Do.** The Meat and Poultry Hotline cannot provide advice about specific diets. If a consumer is on a medically prescribed diet or has specific dietary concerns that require counselling, the caller will be advised to contact a physician, registered dietitian or other health care professional so that individual dietary needs may be adequately assessed.

For more information, call USDA's Meat and Poultry Hotline, Washington, D.C., 1-800-535-4555. Washington, D.C. area callers, dial 202-720-3333. Hotline home economists and dietitians answer questions on the safe handling and storage of meat and poultry. They can also assist you with basic nutrition questions on meat and poultry products and the nutrition labeling on these items. The Hotline is staffed 10 a.m. to 4 p.m., weekdays, Eastern Time. Food safety messages can be heard during off-hours. Below, the new Hotline ad for your use. ♦

## USDA's Meat and Poultry Hotline now answers **NUTRITION** as well as **FOOD SAFETY** questions.



**1-800-535-4555**

**Washington, DC (202) 720-3333**

*Monday-Friday, 10-4 Eastern Time*

Home economists and registered dietitians will answer your nutrition questions about meat and poultry products and nutrition labeling, as well as questions about the safe handling of these foods.

*A public service announcement of this publication and the U.S. Department of Agriculture.*

# THE STORM SEASON

## A FOOD SAFETY SURVIVAL GUIDE



**Y**ou can hardly tune in the evening news anymore without witnessing scenes of disaster. Recently a helicopter was lifting a workman off the top of his truck in a California flood. Families were being evacuated from the path of a hurricane in Florida.

The American Red Cross reports that some 800,000 of us were victims of natural

disasters in 1991. Our own Meat and Poultry Hotline handled nearly 2,000 food safety calls from disaster victims last year.

*Food News* has decided to fight back...with information, survival and preparedness tips. Here's our best advice, drawn from the experts, on how to handle food and water problems in the wake of tornadoes, hurricanes, floods, earthquakes and fires.



# Handling Food Through a Tornado

by CiCi Williamson, C.H.E.\*

**F**acing an ominous black funnel cloud that can toss houses and trees around like toys, would you be wondering how to keep your food safe? Well even Dorothy and Toto had to eat.

First, of course, you and your family must "weather" the storm. Here's advice from the National Weather Service.

- When a tornado warning is issued, persons in it's expected path should take shelter immediately in a sturdy building, ditch or ravine.
- Opening a window, once thought to minimize damage, is not recommended. In fact, opening the wrong window can actually increase damage.
- Do not attempt to flee from a tornado by car. Most deaths occur when people try to escape in motor vehicles.
- After a tornado, stay out of damaged buildings until you are sure they won't collapse.
- Be alert for gas line leaks. If you smell gas, do not try to cook. Open all windows and doors, turn off the main gas valve at the meter and leave the house immediately.

## Safe Food After a Tornado

In an area that has sustained tornado damage, the water supply may be disrupted or contaminated. Food in damaged buildings and homes may be hazardous.

- Drink only approved or chlorinated water.
- Consider all water from wells, cisterns and other delivery systems in the disaster area unsafe until tested.

\*Certified Home Economist

## Power Out in Refrigerator/Freezer:

In emergency conditions, the following foods should keep at room temperature (above 40° F) a few days. Still, discard anything that turns moldy or has an unusual odor or look.

- Butter, margarine
- Fresh fruits and vegetables
- Dried fruits and coconut
- Opened jars of salad dressing, peanut butter, jelly, relish, taco sauce, barbecue sauce, mustard, ketchup and olives
- Hard and processed cheeses
- Fruit juices
- Fresh herbs and spices
- Flour and nuts
- Fruit pies
- Bread, rolls, cakes and muffins

## Discard the following foods if kept over 2 hours at above 40° F

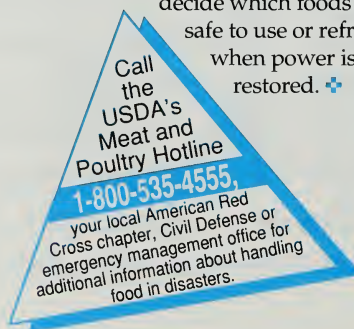
- Raw or cooked meat, poultry and seafood
- Milk/cream, yogurt, soft cheese
- Cooked pasta, pasta salads
- Custard, chiffon or cheese pies
- Fresh eggs, egg substitutes.
- Meat-topped pizza, lunchmeats
- Casseroles, stews or soups
- Mayonnaise and tartar sauce
- Refrigerator and cookie doughs
- Cream-filled pastries

*Refreeze thawed foods that still contain ice crystals or feel cold.*

- Check foods and discard any containing particles of glass or slivers of other debris.
- Discard canned foods with broken seams.

## If the Power's Out

As during other types of disasters, electricity to the refrigerator and freezer may be off. Use the "Power Out" chart to decide which foods are safe to use or refreeze when power is restored. ❖



## Tornadoes—Where & How

- Many people who have seen "The Wizard of Oz" think of Kansas as the "tornado" state.

But Kansas has averaged just 43 tornadoes annually for the last 30 years. The real tornado states are Texas, averaging 119, and Oklahoma, a distant second with 53. Of the 50 states, only Alaska has none.

- A tornado is a violently rotating column of air that usually develops from strong thunderstorms. Winds may reach 300 MPH in a violent tornado.



# Handling Food Through Hurricanes and Floods

by CiCi Williamson, C.H.E.\*

**H**urricane Hugo slammed into the Carolina coast in September 1989 with 135 MPH winds and 20-foot tides. It did 9 billion dollars in damage—a new record.

But because 216,000 people were evacuated from coastal areas before it struck, only 21 people died. In contrast, 6,000 people died in the 1900 Galveston hurricane.

*Preparedness* kept more people from being hurt and is also a key to food safety during a hurricane and the floods that can accompany it.

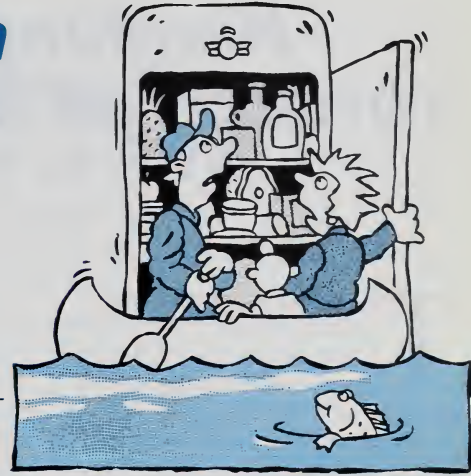
If you live in a hurricane area, keep an adequate supply of food, water and

emergency equipment on hand. This includes enough canned food to last 4 to 5 days, a hand can opener, battery-powered radio, extra batteries and emergency cooking equipment like a camp stove with fuel to operate it.

Don't forget flashlights, candles, matches, a kerosene lamp, fire extinguisher and a first aid kit.

If the National Weather Service announces a hurricane "watch," expect hurricane conditions within 24 hours. Fill the bathtub and large containers with water. Each person will need a gallon of water per day for 3 or 4 days.

Turn your refrigerator and freezer to the coldest setting. The colder food is



before a possible power failure, the better it will last.

You might want to purchase a 50-pound block of dry ice which should keep food safe (if there's no power) in a full 18-cubic foot freezer 2 days.

Dry ice registers -216° F, so wear gloves or use tongs when handling it. Wrap it in brown paper for longer storage and separate it from direct food contact with a piece of cardboard. Fill a partly empty freezer with crumpled newspaper to cut down on air currents which cause the dry ice to dissipate.

Flooding often accompanies hurricanes. If you live in an area subject to floods, be ready to raise refrigerators or freezers by putting cement blocks under their corners. If you keep canned goods and other foods in a basement or low cabinets, move them higher.

Flood waters may carry silt, raw sewage, oil or chemical waste. If foods have been in contact with flood waters, use this chart to determine their safety. ❖

## "Flooded" Foods

### DISCARD:

- Meat, poultry, fish and eggs
- Fresh produce
- Preserves sealed with paraffin
- Unopened jars with waxed cardboard seals such as mayonnaise and salad dressing
- All foods in cardboard boxes, paper, foil, cellophane or cloth
- Spices, seasonings and extracts
- Home canned foods
- Opened containers and packages
- Flour, sugar, grain, coffee and other staples in canisters
- Cans dented, leaking, bulging or rusted

### SAVE:

Undamaged canned goods and commercial glass jars of food are safe if you sanitize the containers. Mark contents on can or jar lid with indelible ink. Remove labels. Paper can harbor dangerous bacteria. Then wash jars and cans in a strong detergent solution with a scrub brush.

Finally, immerse containers for 15 minutes in a solution of 2 teaspoons of chlorine

bleach per quart of room temperature water. Air dry before opening.

Sanitize dishes and glassware the same way. To disinfect metal pans and utensils, boil them in water 10 minutes. Discard wooden spoons, plastic utensils and baby bottle nipples and pacifiers.

For information about gardens that have flooded, contact your county extension home economist or local health officials.

Call  
the  
USDA's  
Meat and  
Poultry Hotline

1-800-535-4555

your local American Red Cross chapter, Civil Defense or emergency management office for additional information about handling food in disasters.

\*Certified Home Economist

# Handling Food Through an Earthquake

by Dianne Durant

**T**he earthquake that rocked California Sept. 18, 1989 could hardly be ignored. A 7.1 on the Richter scale, it made national television as it was happening. Millions of viewers saw the bleachers "move" during the World Series telecast from Oakland.

Broadscale survival problems were equally obvious. Power outages put food supplies at risk.

According to Cordelia Morris, a U.S. Department of Agriculture public affairs officer on the scene, "People were panicked because their refrigerators and freezers were out. They weren't sure what was safe to eat."

To keep food safe and avoid food poisoning, people need to know what foods to store *before* an earthquake and how to handle foods *afterwards*.

Experts advise those living in earthquake areas to keep a three-day supply of emergency food and water.

**Assembling an Emergency Food Supply.** Because gas and electric power systems may be damaged during an earthquake, it's important to have food on hand that doesn't need refrigeration.

*Canned goods* are best, like ready-to-eat canned meats, fruits and vegetables. Foods in glass bottles and jars may break in a disaster.

Canned foods can be kept almost indefinitely as long as they aren't leaking or bulging. For optimum quality, however, replace canned goods every year to year-and-a-half.

Canned foods can be heated indoors with *candle warmers* or *chafing dishes*. Outside, use a *charcoal grill*, *hibachi* or *camp stove*. Remove the paper label from the can so it doesn't burn.

Also recommended:

- Smoked or dried meats like beef jerky
- Juices—canned, powdered or crystallized
- Soups—bouillon cubes or dried "soups in a cup"
- Milk—powdered or canned
- Staples—sugar, salt, pepper
- High energy foods—peanut butter, jelly, crackers, nuts, trail mix
- Stress foods—sugar cookies, hard candy, sweetened cereals
- Vitamins.

**Other Tips.** To secure enough water for your family, store 1 gallon of water per person per day in plastic containers.

When putting together your emergency supplies, try to store foods your family normally eats, plus some favorite treats. Avoid stocking too many foods that are high in salt and increase thirst.

Store foods in small serving sizes. Without refrigeration, "leftovers" can lead to food poisoning.

Don't forget canned and non-perishable pet foods.

Store one or two manual can openers with your emergency food supply.

**After Disaster Hits.** After a quake, you know you can count on your emergency food supply. But does that mean that all the food in the refrigerator and freezer is "spoiled?"

No, say experts from USDA's Meat and Poultry Hotline. Food in the refrigerator and freezer is jeopardized when the power goes out. But loss of power doesn't necessarily mean loss of food.

Generally, food in the refrigerator is safe as long as the power is out no more than a few hours. Food in a full, free-standing freezer will be safe for about 2 days; a half-full freezer for about 1 day.



If the freezer isn't full, group packages together so they form an "igloo" protecting each other.

Group meat and poultry to one side or on a tray so their juices won't contaminate other foods if they begin to thaw.

Be especially careful with perishable foods like meat and poultry or food containing milk, cream, sour cream or soft cheese.

You can't rely on appearance or odor to tell you if a food will make you sick. If perishable foods have been at room temperature for more than 2 hours, disease-causing bacteria may have multiplied enough to cause illness.

**Where To Go For Help.** Your local Red Cross offers several publications.

"Your Family Disaster Supplies Kit" offers guidelines on assembling first aid, tools and clothing.

"Are You Ready for an Earthquake?" is a one-page factsheet with tips on what to do before and after an earthquake. ♦







# Handling Food After a Fire

by Dianne Durant

**F**ire! Few words can strike such terror. Nor is a residential fire an uncommon occurrence. Some 2 million American homes were hit last year. In the aftermath of fire, people are left with the unsettling task of salvaging their lives and belongings.

"Whether it's a house fire or just a fire in the refrigerator, people try to save whatever they can—including food," said Bessie Berry of the U.S. Department of Agriculture's Meat and Poultry Hotline.

"But, generally, saving food that's been in a fire is just not a good idea," Berry advised.

Food that's been exposed to fire can be compromised by three factors—the heat of the fire, smoke fumes and chemicals used to fight the fire.

Food in cans or jars may appear to be "okay," but if they've been close to the heat of the fire, they may no longer be edible. Why? Heat from the fire can activate food spoilage bacteria.

One of the most dangerous elements of a fire is sometimes not the fire itself, but *toxic fumes* released from burning materials. Those fumes can kill. They can also contaminate food.

Any type of food stored in permeable packaging—cardboard, plastic wrap, etc.—should be thrown away. Toxic fumes can penetrate the packaging and contaminate the food.

Also discard any raw foods stored outside the refrigerator, like potatoes or fruit, which could be contaminated by fumes.

Surprisingly, according to Berry, food that's stored in refrigerators or freezers can also become contaminated by fumes.

"We think of the refrigerator seal as air-tight, but it's usually not. Fumes can get inside," she said.

If food from your refrigerator has an off-flavor or smell when it's prepared, throw it away, Berry advised.

*Chemicals* used to fight fires also contain toxic materials and can contaminate food and cookware.

Foods that are exposed to chemicals should be thrown away. The chemicals cannot be washed off the food. This includes foods stored at room temperature, like fruits and vegetables, as well as foods stored in permeable containers like cardboard and screw-topped jars and bottles.

Canned goods and cookware exposed to chemicals can be decontaminated. Wash in a strong detergent solution and then dip in a bleach solution (2 teaspoons bleach per quart of water) for 15 minutes.

For the factsheet for families and individuals "Are You Ready for a Fire?" contact your local chapter of the American Red Cross. ❖

## Fire Stoppers

The American Red Cross recommends that you

- Make your home fire-safe by installing battery-powered smoke detectors on each floor and in the garage. Test the detectors twice a year and keep a working fire extinguisher in the kitchen.
- Plan two emergency escape routes from each room in the house. Have rope or chain ladders for upstairs rooms. Agree on where to meet after the family "escapes."
- Have your own practice fire drills. Instruct everyone to crawl low under "smoke."



# Traditional Spring Food — Its History and Safe Handling Today

by Laura Fox



**D**id you know the bright eggs youngsters lunge for so eagerly at egg hunts represent an ancient promise? That ham for Easter became a tradition because the first hams were ready in early spring on our grandparents' farms? That the contents of Ukrainian eggs with their exquisitely painted shells were originally blown out to "ward off" evil spirits?

"From ancient times," said Smithsonian sociologist Shirley Cherkasky, "the egg, which carries new life, has been a symbol of hope and renewal." Decorating eggs for spring, then, echoes the new life nature is presenting.

"Easter and Passover are marked by the eating of foods rich in tradition and symbolism," said Cherkasky.

The ceremonial foods in the Jewish Seder or Passover celebration mark milestones in the Hebrew escape from Egypt over 3,000 years ago.

Based on herd-raising patterns, spring lamb was the traditional centerpiece of Easter meals for people in the Mediterranean, as it still is for many Americans of Mediterranean descent today.

The lack of refrigeration probably determined that ham for Easter became

traditional for many of us. When most Americans lived on farms, hogs were butchered in the fall so the meat could be safely cured over the cold winter months. The first hams, ready by early spring, were a logical choice for Easter dinner.

That's a very quick history of some of our more common spring foods. Susan Conley, head of USDA's Meat and Poultry Hotline, brings us up-to-date with this reminder. "It's the sensory aspects of spring foods—the colored Easter eggs, the smell of brisket roasting in the oven, the smoky flavor of ham—that we like to savor. But what we need to remember is that these special foods also need proper handling."

## Food Safety for Spring Foods

Since perishable foods like meat, poultry and eggs can be the source of bacteria that cause foodborne illness, they must be carefully handled. Follow these tips for safe handling.

See the chart for specific guidelines for storing and cooking ham, lamb and brisket.

**Buying Ham and Lamb.** There are a variety of hams on the market today, so it is important to read the label to know

how to handle and cook whatever you buy. For example, some canned hams are shelf-stable meaning they do not need to be refrigerated, but some canned hams do need to be refrigerated. Most lamb purchased for Easter is labeled "spring lamb" or "genuine spring lamb." The term "spring" does not necessarily refer to the season the lamb was born, but to its age (less than a year old) at the time it is sent to market.

When purchased, lamb is covered with a papery whitish membrane called the fell, which should be removed before cooking as it tends to make the flavor of the meat strong.

### Cooking Ham, Lamb and Brisket.

All meat and poultry should be cooked in an oven set at no lower than 325° F. Lower temperatures may not kill bacteria present in the food.

Another important factor in keeping food safe is *thorough* cooking. All perishable foods must reach an internal temperature high enough to kill bacteria.

**Serving the Passover Seder.** This holiday presents some food safety challenges as the entire meal—the brisket, hard-boiled eggs, gefilte fish, matzo ball soup—must be prepared ahead so that everyone can participate in the Seder ceremony.



Solutions? Cold foods can be arranged on platters ahead of time and served directly from the refrigerator.

The brisket can be fully cooked ahead of time in either an oven or crock pot. Slice it and refrigerate in a shallow pan. Thoroughly reheat to serve.

**Handling Leftovers.** All perishable foods should be refrigerated as soon as your meal is over, but no longer than 2 hours after removal from the refrigerator or oven.

For ham and lamb, carve the remaining meat off the bone and store it in small, shallow containers in the refrigerator or freeze for later use.

**The Egg Issue.** Raw eggs, like raw meat and poultry, may be contaminated with foodborne bacteria. *Salmonella enteritidis* is of particular concern.

Consumers should avoid eating raw eggs or foods containing them. Raw and cooked eggs should remain refrigerated at all times. How does this affect your Easter celebration?

**Eggs for an Easter Egg Hunt.** Hard-cooked eggs for an egg hunt must be prepared with care to prevent cracking the shells. If the shells are cracked, bacteria from your hands could seep through the shells, contaminating the inside. The eggs should be hidden in places that are protected from dirt, pets and other sources of bacteria. The total time for hiding and hunting eggs should not exceed 2 hours. The "found" eggs must be re-refrigerated until they are eaten.

**Decorating Ukrainian Easter Eggs.** Since some raw eggs may contain salmonella, you must use caution in blowing out the contents to hollow out the shell for decoration.

Use only eggs that have been kept refrigerated and are uncracked. Make sure hands and utensils are clean. To kill bacteria that may be present on the surface of the egg, wash the egg in hot water and then rinse in a solution of 1-2 teaspoon of bleach to a half cup of water. After removing the contents of the eggs, refrigerate them immediately and use within a day or freeze for later use. Be sure to thoroughly cook the eggs.

**Raw Egg Frosting for a "Bunny Cake."** Many recipes for bunny-shaped cakes call for using a raw egg white in the frosting. But any time raw egg whites are eaten, there is the risk of salmonella food poisoning.

It's probably wise to find a frosting recipe that uses hot syrup and egg white. If the egg white mixture reaches 160° F on a thermometer, it should be safe.

You may also be able to use a pasteurized powdered meringue available where cake decorating supplies are sold.

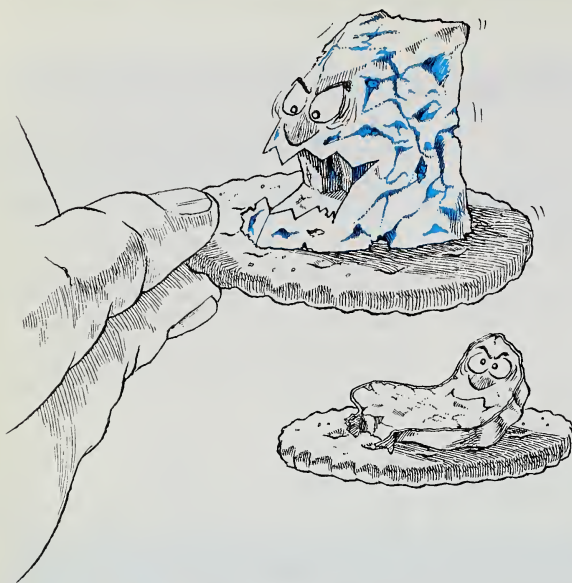
"As our knowledge of food safety expands, it is reassuring to know that traditional recipes can be updated, resulting in meals that are both safe and delicious," said USDA's Conley. ❖

*Consumers with questions on food safety or nutrition can call USDA's Meat and Poultry Hotline. The number is 1-800-535-4555. Washington, D.C. area residents call (202) 720-3333. The Hotline is staffed Monday through Friday, 10 a.m. to 4 p.m., Eastern Time.*



## Safe Handling & Cooking of Easter and Passover Meats

	Store	Cook at 325° F to	Refrigerate Leftovers
<b>Ham</b>			
Fresh Ham	3-5 days in refrigerator	160° F	3-4 days
Canned Refrigerated Ham	6-9 months in refrigerator	140° F	3-4 days
Fully Cooked, Vacuum Packaged, Unopened	2 weeks in refrigerator	140° F	3-4 days
Fully Cooked, Wrapped at Grocery Store	3-5 days in refrigerator	165° F	3-4 days
Canned Ham Shelf-stable	2 years room temperature	140° F	3-4 days
<b>Lamb</b>			
	3-5 days in refrigerator	160° F medium 170° F well done	3-4 days
<b>Beef Brisket</b>			
	3-5 days in refrigerator	160° F medium 170° F well done	3-4 days



## How Would You Know if the Blue Cheese or Pepperoni Were About to Turn on You?

by Mary Ann Parmley

**"H**ow could I tell if my blue cheese went bad?" a caller recently asked USDA's Meat and Poultry Hotline. The Hotline answers questions on the care of perishable foods.

It's a good question. In a "healthy" state blue cheese is veined with mold!

So here are some guidelines on how to judge the fitness and eat-ability of specialty cheeses, buttermilk, yogurt, sourdough bread, hard sausages, sauerkraut and so forth. The key to the puzzle is that all these foods are *fermented*.

**Fermentation.** "From time immemorial," said USDA microbiologist Carl Custer, "people have fermented foods both to preserve them and impart distinctive flavors." The problem with most foods, Custer explained, is that they have a nearly neutral pH.

That means they are neither an acid like vinegar nor a base like lye. Unfortunately, the micro-organisms that cause spoilage and foodborne illness thrive at neutral pH levels. So over time people stumbled onto ways to acidify food to extend its usefulness.

Fermentation is one such method. Many kinds of food fermentation, using helpful lactic acid bacteria, make foods more acidic and extend shelf-life.

But fermented foods, like all perish-

ables, must still be properly handled. Because, with longer storage and repeated handling, there is the opportunity for spoilage and food poisoning organisms to reach the food and start growing.

**Cheeses.** Made from separated milk solids, specialty cheeses are then ripened using bacteria and/or molds chosen to give certain textures and flavors. For example, blue cheese is mold-ripened by *Penicillium roqueforti*, while brie is aged by *Penicillium camembert*.

**Normal storage:** Firm cheeses keep well several weeks in the refrigerator if protected from mold and drying. A soft brie retains top quality about a week in the refrigerator. Re-wrap cheese after cutting.

Care must also be taken to use cheese properly. Don't leave cheese at room temperature for extended periods (2+ hours). Like all perishables and all opened or sliced fermented foods, cheese can be contaminated by micro-organisms on people's hands, by coughs, sneezes and "bugs" in the air. Too-long exposure at room temperature can give these microscopic and therefore invisible food poisoners time to multiply to disease-causing levels.

Check refrigerated cheese before serving it. Discard a soft cheese if you see any signs of mold—it can easily spread through soft tissues. Hard

cheeses are past saving if mold growth is extensive or cheese has lost its original color and texture. Discard blue or other blue-veined cheese if you see mold growth different from the normal veining. Invader-molds may appear as white, pink, green, blue, black or grey flecks or furry patches.

**Fermented Sausages.** Dry and semi-dry fermented sausages are made from ground meat treated with seasoning and curing agents. Starter cultures are also used to shorten fermentation time.

Genoa salami, summer sausage, Lebanon bologna and pepperoni are some common varieties.

Watch the labels on these sausages for handling instructions. Some semi-dry sausages require refrigeration, most dry sausages don't. But all sausages should be refrigerated after you cut into them and expose the moist inner surfaces.

**Storage times?** Opened whole semi-dry sausage will last 3-6 weeks refrigerated; opened whole dry sausage will last 6-8 weeks. Extremely dry jerky or beef sticks, once opened, last 2-3 months refrigerated. Sealed vacuum-packed slices will last about 2 weeks; once opened, 1 week.

A salty, white film which can form on the skin of these sausages is harmless and can be cut away, but sliminess or discolored spots on casings mean



you should discard the meat.

### **Buttermilk, Yogurt, Sour Cream.**

Buttermilk, yogurt and sour cream can be puzzling because it's not always as easy to determine when they're no longer useable as it is with ordinary milk. Milk sours with definite smell and flavor changes.

**Cultured buttermilk**, which some food historians say originated in southern Russia, results from a lactic acid bacteria starter mixture or culture. Best if used the first week, buttermilk normally keeps 2 weeks refrigerated. Beyond that, it can become too bitter to drink. Actual spoilage can appear as off-odors or the separation of greyish liquid on top.

Pasteurized, homogenized cream treated with lactic starter culture becomes **sour cream**.

Lasting 2-3 weeks in refrigeration, sour cream should be discarded if you see mold spots, pink or green scum or cloudy liquid that has separated on top.

The "friendly" bacteria *Lactobacillus bulgaricus* and *Streptococcus thermophilus* turn milk into **yogurt**. Yogurt, with a normal refrigerated lifespan of 1 to 2 weeks, should be discarded at any sign of mold growth—blue, green or pink mold is common—or if it develops a yeasty aroma.

Classic *sourdough bread* draws its flavor from the acidic *Lactobacillus san-francisco*. Wrapped in paper and stored in a bread box, it will stay fresh a day or so. Just beyond that, if it's dried out, you can microwave a serving to soften it. Use the microwaved portion immediately. Like other breads, over-aged sourdough can become moldy.

**Sauerkraut**, made from cabbage salted and fermented in its own juice, can be either canned or fresh at the deli case. While the growth of lactic acid bacteria during fermentation make kraut somewhat spoilage-resistant, its eating quality is another matter. Experts suggest canned kraut should be eaten within 6 months for full flavor, and that fresh kraut retains top quality refrigerated about 1 week.

Spoilage appears as mold growth or surface scum.

**Processed Pickles**, lactic-acid fermented cucumbers in glass jars, may be kept on the cabinet shelf about a year. Once opened, you can keep them refrigerated for 1-2 months. Discard if the liquid turns cloudy or scum forms on the surface. Mushy pickles should also be discarded.

**Fermented Olives** that we see on the grocery shelves are stuffed green olives, Spanish green olives and some Greek and Sicilian brand black olives.

Surprisingly, fresh-picked olives are bitter and largely inedible. So olives to be fermented are first treated with lye to remove bitterness, then brined and sometimes processed with lactic acid or lactobacilli bacteria.

The resulting canned olives are shelf-stable up to 1 year. Opened, they can be refrigerated in their own liquid for 1-2 months.

Discard olives when they become soft, spotted or produce a spoiled odor. ♦

## **The Fermented Foods Storage Chart**

Chart assumes items have been opened or cut into.  
N/R means not recommended.

	Refrigerator	Freezer
<b>Cheese</b>		
Cheddar	4-8 weeks	6 months
Swiss	4 weeks	6 months
Blue	2-4 weeks	6 months
Brie, ripe	1 week	6 months
<b>Other Dairy Products</b>		
Buttermilk	1 week, top quality 2nd week, may turn bitter	3 months
Sour cream	2-3 weeks	N/R
Yogurt	1-2 weeks	1 ½ months
<b>Sausage*</b>		
Salami	1-2 weeks	4 months
Summer sausage	1-2 weeks	4 months
Lebanon bologna	1-2 weeks	4 months
Genoa salami	2-3 weeks	6 months
Pepperoni	2-3 weeks	6 months
Hard salami	2-3 weeks	6 months
Jerky & Beef sticks	2-3 months	1 year
<b>Sauerkraut, fresh</b>	1 week	N/R
<b>Pickles, processed</b>	1-2 months	N/R
<b>Olives</b>	1-2 months	N/R

\*These are general, rule-of-thumb guidelines. You should also check package directions and use-by dates on individual products.

*Additional information on food storage is available in a Food Marketing Institute pamphlet "The Food Keeper," 50 cents, from FMI, 800 Connecticut Ave., N.W., Wash., D.C. 20006. Send SSAE. Janet Bailey's comprehensive Keeping Food Fresh, Harper & Row, 1989, is also quite helpful.*



# The FOOD Hotlines— Where Help Is Only a FREE Call Away

by Liz Lapping and  
Mary Wenberg

**W**hen the instructions say to baste your turkey, do you reach for a needle and thread? Have you ever tossed a package of meat on the counter to thaw as you rush off to work? Maybe you're on a special diet and need to know more about a specific product. Do you need information on safely handling perishable foods?

If so, you can call any of the tollfree numbers listed here for professional help. You'll get the assistance you need, and your call will help the company or agency track what consumers are thinking and what they need to know about food products.

Elizabeth Karmel, spokesperson for the Butterball Turkey Talk-Line, said, "Market research in 1981 suggested that consumers were intimidated by the sheer size of a turkey. So the Talk-Line was set up to provide help and reassurance to consumers as they prepared the holiday meal."

Trained personnel at these companies and organizations are waiting to answer your questions. Just pick up the phone.

## The Food Lines

- **USDA's Meat and Poultry Hotline**, Washington, D.C., 1-800-535-4555. Washington, D.C. area callers, dial 202-720-3333. Hotline home economists answer questions on the safe handling and storage of meat and poultry. They

can also assist you with basic nutrition questions on meat and poultry products and the nutrition labeling on these items. The Hotline is staffed 10 a.m. to 4 p.m., weekdays, Eastern Time. Food safety messages can be heard during off-hours.

- **Assorted Meats and Poultry, (Canned and Non-Canned)**. Hormel, Austin, Minn., 1-800-523-4635. Consumer Affairs staff provide recipes and nutrient composition of Hormel products. They also handle complaints. 8 a.m.-4 p.m., weekdays, Central Time.

- **Kosher Poultry**. Empire Kosher, Mifflintown, Penn., 1-800-367-4734. Ask for Consumer Relations for answers to questions about kosher processing, poultry handling and preparation. Staff can also provide cooking directions, kosher recipes and nutrition information on their own products. 8 a.m.-5 p.m., Mon.-Thurs., 8 a.m. to 3 p.m., Fri., Eastern Time.

- **Lunch Meats and Sausages**. Armour-Swift-Eckrich, Downers Grove, Ill., 1-800-325-7424. Consumer staff will answer questions on nutrition and storage of Eckrich products. They also provide recipes. 8:30 a.m.-4:30 p.m., weekdays, Central Time.

- **Nutrition**. National Center for Nutrition and Dietetics, sponsored by The American Dietetic Association, Chicago, Ill., 1-800-366-1655. Registered

dietitians answer food and nutrition-related questions.

Taped nutrition messages available 24-hours a day. Callers may also leave name and address to receive free nutrition brochure. 9 a.m.-4 p.m., weekdays, Central Time.

- **Poultry**. Tyson-Holly Farms-Weaver, Springdale, Ark., 1-800-233-6332. Staff handles inquiries on safe handling, nutritional value and preparation of products. They also handle complaints. 8 a.m.-5 p.m., weekdays, Central Time.

- **Seafood**. American Seafood Institute, Wakefield, R.I., 1-800-328-3474. Staff will answer questions about purchase, preparation and nutritional value of seafood products. 9 a.m.-5 p.m., weekdays, Eastern Time.

- **Turkey**. Butterball Turkey Talk-Line, Downers Grove, Ill., 1-800-323-4848. Open from late October through Christmas, the staff can talk you through the preparation of a complete turkey dinner with all the trimmings. 8 a.m.-8 p.m., weekdays, Central Time. Open 6 a.m.-6 p.m. Thanksgiving Day.

Many major food companies also have 800 numbers to answer questions on their own products. If you have a question about an item, check the label for an 800-number listing or call the AT&T 800 information number (1-800-555-1212) to see if the company is listed. ♦



## NEWSWIRES

### USDA'S Meat And Poultry Hotline Installs 24-Hour Automatic Answering System

Callers to the U.S. Department of Agriculture's Meat and Poultry Hotline can now receive food safety information 24 hours a day thanks to the Hotline's new automated information system.

Installed this February, the system allows callers to select from an extensive list of pre-recorded food safety messages. As always, Hotline home economists and registered dietitians will be available during business hours (10 a.m. to 4 p.m. weekdays) to personally answer questions and to speak to callers who do not have touch-tone phones.

The new system should allow more callers to reach the Hotline. Last year 40 percent of the Hotline's some 95,000 calls were received after business hours. Additional phone lines have been added to accommodate more callers.

How will the new system work? Let's say you just discovered some food buried in the back of your freezer and want to know if it is still safe. A call to the Hotline would introduce you to the Food Safety Information System and ask you to select from two lists of four topics each.

Since you want information about frozen foods you would choose the Safe Storage message, which gives information about refrigerated, frozen and shelf-stable food. At the end of this message, if you wish, you may choose another topic or, if it is during business hours, you may speak to a home economist.

To make the Hotline's information system as "user-friendly" as possible, a consumer may press "0" at any point during business hours to speak to a home economist. "The new system will enable us to serve many more consumers, and will give our callers more options," said Linda Burkholder, the Hotline's systems manager.

For around-the-clock food safety advice, call the USDA's Meat and

Poultry Hotline at 1-800-535-4555. Washington, D.C. residents call (202) 720-3333. The Hotline, staffed weekdays from 10 a.m. to 4 p.m., is a consumer service of USDA's Food Safety and Inspection Service.

—Marianne Gravely

### Ozone Cleans Chiller Water in Poultry Plant Tests

That "snap" in the air, the fresh smell you often notice just before a storm, is ozone, said Dr. Michael Rose, a plant equipment and water quality expert with USDA's Food Safety and Inspection Service.

Ozone is released when an electric current sweeping through the atmosphere changes oxygen molecules to ozone. In poultry plants where a new ozone water purification method is being tested, ozone is produced in electric generators.

The ozone is then passed through water to be purified in high-volume cleaning tanks. Ozone purifies the water by killing bacteria and reducing the number of organic solids present.

In tests now taking place, ozone purification is being used on poultry plant chiller water—water used to bring the temperature of birds down to a safe 40° F. The low temperature is necessary to inhibit the growth of bacteria and other pathogens that can cause spoilage and foodborne illness.

When the system works properly, cleaned chiller water can be returned to the plant and re-used, dramatically reducing plant operating costs and the drain on local water supplies.

Will ozone purification soon be common practice in the nation's poultry plants? "Right now we're in the final tests of the new systems," said Dr. Rose. "As soon as we're satisfied with the safety and effectiveness of ozone as a water purifier, we will add the system to our list of approved methods. Then it will be up to industry to opt to try the new method."

—Mary Ann Parmley

### Keep Your Food Safe—New Publication Simplifies Food Safety

Twenty-seven million adults in the United States have reading, writing and math skills below the eighth-grade level, according to estimates from the U.S. Department of Education.

Now the U.S. Department of Agriculture is distributing a food safety publication designed to teach those with lower-level reading skills how to safely care for food.

*Keep Your Food Safe* is a 20-page booklet that presents basic food handling advice in an easy-to-read format. The booklet explains why foods go bad, how to check for safe foods at the store and how to safely care for foods once you get them home.

USDA's Food Safety and Inspection Service reprinted the booklet—created by the FDA in 1991—and added the toll-free number for USDA's Meat and Poultry Hotline.

The free publication will be distributed through literacy programs and USDA's Women, Infants and Children (WIC) program. WIC is a supplementary food distribution program for low-income women and children.



For your free copy of *Keep Your Food Safe*, write:

USDA/FSIS  
Public Awareness Office  
Room 1165-South Bldg.  
Washington, D.C. 20250.

—Liz Lapping

IN THE SUMMER ISSUE

# FOOD SAFETY FOR THE GREAT OUTDOORS



**S**and flies, sunburn and sibling rivalry...summer excursions with the family already present you with a number of interesting challenges.

Why add concern about food safety to the list?

This year's summer Food News will cover the ins and outs of safe food handling for car trips, boating, beach outings and camping with special help for those with infants and toddlers.

Even if you're going by yourself or as a romantic twosome, you'll need these "hot" summer tips.

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